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### Article information:

To cite this document:

Anupama Singh, Sumi Jha, (2018) "Exploration of people centric organizational health dimensions: a study of Indian R&D organization", Industrial and Commercial Training, <https://doi.org/10.1108/ICT-04-2018-0038>

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# Exploration of people centric organizational health dimensions: a study of Indian R&D organization

Anupama Singh and Sumi Jha

## Abstract

**Purpose** – The purpose of this paper is to identify the dimensions of organizational health with the help of existing literature and focus group discussion on organizational health. The study also tries to categorize various antecedents and consequences of organizational health.

**Design/methodology/approach** – Literature review was conducted with limited search word on organizational health using databases like Emerald, Ebsco and Science direct. Focus group discussions were performed at Central Salt and Marine Chemicals Research Institute and National Metallurgical Laboratory – laboratories of Council of Scientific and Industrial Research, an Indian R&D organization. A total of 29 male and 6 female respondents participated in the focus group discussion.

**Findings** – The results showed that various dimensions of organizational health which were found using focus group discussions were in congruence with the literature reviewed on organizational health. The findings of focus group discussion also listed the antecedents and consequences of organizational health in an R&D organization.

**Research limitations/implications** – The literature presented conflicting views on organizational health construct. The focus group discussion provided clarity on the dimensions of organizational health. An empirical research can be done on organizational health considering dimensions identified during the focus group discussion.

**Originality/value** – It is an attempt to conceptualize the construct of organizational health in a research and development organization with the help of focus group discussion.

**Keywords** Organizational health, Focus group discussion, Research and development organization, VantagePoint

**Paper type** Research paper

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## Introduction

Organizational health is perceived to be associated with the adaption of the organization in response to the changing environment and is helpful in attaining competitive advantage (Keller and Price, 2011; Lencioni, 2012). Organizational health has also been associated with individual health and wellbeing since the term first came into existence in 1960s. McHugh and Brotherton (2000) and McHugh *et al.* (2003) advanced the concept of organizational health by assimilating the integral processes of the organization (structural, cultural and management process) with the organizational performance. The study attempts to explore the concept of organizational health in R&D organizations. Research and development (R&D) is one of the ways by which organizations can keep on challenging their competitive position by increasing their stock of knowledge (Niosi, 1999) and by fostering diversification of their economy toward higher value-added prospects (Hausmann and Hidalgo, 2011). The multi-national corporations have captured this advantage as they set up their R&D units in emerging markets which utilizes the advanced and innovative technologies creating difficulties for the domestic firms. Among the domestic firms, government-funded R&D organizations are at the most disadvantage. The existence of government-sponsored R&D organizations is to contribute to the development of industry and the creation of markets, rather than be self-serving and respond to the needs and demands of their economy (Matthews and Shulman, 2005). Griliches (1979)

highlighted that the growth of an economy in terms of productivity is related to gross expenditures on research and development (GERD) by the government. This makes the government-funded R&D organizations more important and in need of focus as government-funded R&D contributes to the gross domestic product (GDP). Therefore, government-funded R&D organizations need to achieve competitive advantage by attaining organizational health.

The purpose of this study was to investigate the concept of organizational health constituents in R&D organization. The attempt has been made to understand the concept of organizational health by relating the factors of organizational health found from extant literature with the factors of organizational health emerged during the focus group discussion. Further, the study wanted to explore how employees of the organization can be involved in improving the organizational health. The study concludes by proposing a tentative framework of organizational health for a government-funded R&D organization in an emerging market. The proposed framework has highlighted the importance of R&D employees and the role these employees play in enhancing organizational performance by ensuring the health of their organization.

### Theoretical background

Since conceptualization of the term organizational health, various authors have tried to define organizational health primarily as the ability of an organization to grow, develop and sustain with the change in environment (Miles, 1965; Clark, 1969; Fordyce and Weil, 1971; Hoy *et al.*, 1991). Organizational health was chiefly devised to show that an organization needs to overcome the challenges in the environment (Bennis, 1962). Bennis (1962) was one of the first theorists to apply the term health in context of an organization while Miles (1965) was one of the first theorists to apply the term health in context of a school. Various researchers showed that organizational health is basically organizational effectiveness with respect to the changes in circumstances/environment (Miles, 1965; Clark, 1969; Fordyce and Weil, 1971; Cox and Howarth, 1990). But the concept of organizational health evolved in the last decade of nineteenth century with the primary focus on attaining competitive edge (Keller and Price, 2011; Lencioni, 2012).

One of the observation while conducting extensive literature was that organizational health is a poorly defined concept (McHugh and Brotherton, 2000; MacIntosh *et al.*, 2007; Raya and Panneerselvam, 2013; Trong Tuan, 2013; Xenidis and Theocharous, 2014; Singh and Jha, 2017). But this observation is valid only in case of business organizations. In case of education sector, Hoy *et al.* (1991) not only conceptualized organizational health but also developed an organizational health scale for elementary and secondary school based on the dimensions of school health identified by Parsons (1958). Various studies have only used this organizational health scale but also modified the scale depending upon its application in universities and institutes (Tsui and Cheng, 1999; Licata and Harper, 2001; Henderson *et al.*, 2005; Hong *et al.*, 2014; Hameiri and Nir, 2016). Even though organizational health has been widely used and well researched in multi-disciplinary domains (Bäckström *et al.*, 2009; Bahrami *et al.*, 2013; MacIntosh *et al.*, 2007; Tarride and González, 2014), poor conceptualization suggests the need for an extensive and exhaustive research on organizational health in case of business organizations.

Further, McHugh *et al.* (2003) identified indices (financial, structural, strategical, cultural and/or behavioral) to measure health in the organization. After conducting an extensive literature review, it was observed that the concept has clarity when financial parameters (Cooper and Cartwright, 1994; McHugh and Brotherton, 2000; McHugh *et al.*, 2003), strategical perspective (MacIntosh *et al.*, 2007; Nair, Kumar and Ramalu, 2014; Xenidis and Theocharous, 2014; Nair, Ramalu and Kumar, 2014) and behavioral perspective (Salanova *et al.*, 2012; Kipfelsberger *et al.*, 2016; Meng *et al.*, 2014) are discussed but requires further investigation to understand the factors of organizational health from structural and cultural perspective. Also, none of the researchers have been able to incorporate all these measures of organizational health together in an operational definition and neither has bridged the gap in the conceptualization of organizational health for business sector.

To bridge this gap, an understanding of the micro-foundations of institutional theory given by Powell and Colyvas (2008) was used. Scott (2001, p. 48) defined institutions as being composed of

cultural-cognitive, normative and regulative elements that together with associated activities and resources together provide stability and meaning to social life. Institutions are sustained, altered and extinguished as they are created by individuals as institutional forces shape individual interests and desires and frame the possibilities for action (Powell and Colyvas, 2008). Macro-institutional perspectives influence individuals through process of classification and categorization which is a recursive and self-reinforcing process (Powell and Colyvas, 2008). Institutions are reproduced through everyday activities of individuals simultaneously the members of organizations also get involved in daily activities, problems and changes in their work, formulate questions and develop answers by theorizing them and, in turn, members also extract meaning from these theories and develop mutual understanding (Powell and Colyvas, 2008). Therefore, in the present study to capture the essence of organizational health, the institutional theory has been applied.

## Methodology

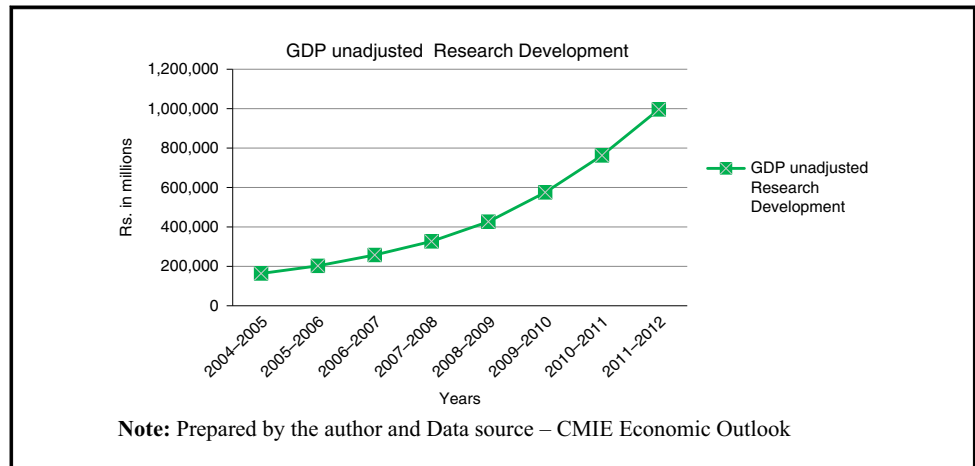
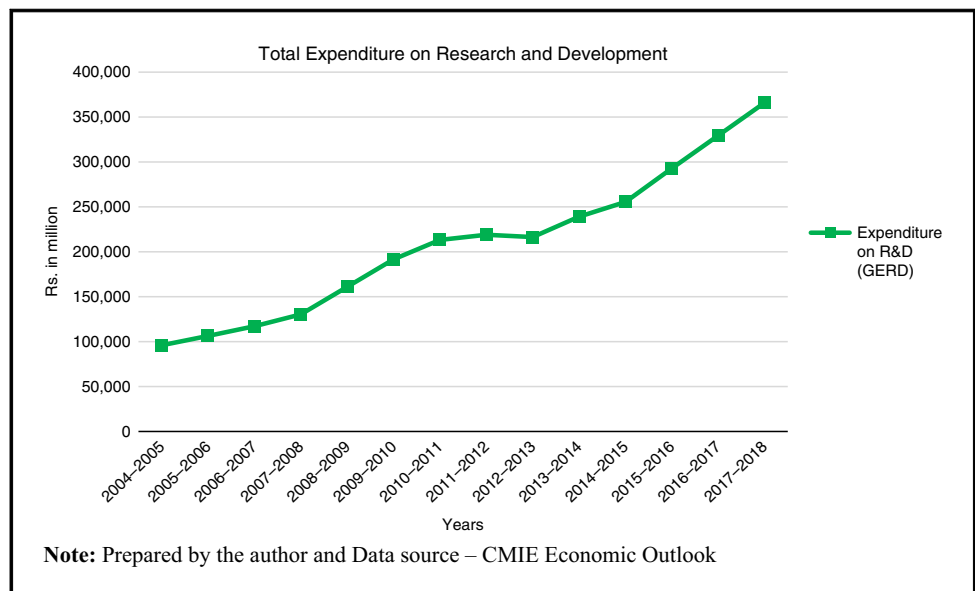
Qualitative method of data collection was applied to collect data. For the present study, focus group discussion was conducted. Focus groups are distinct from individual interviews because of the explicit use of group interaction (Morgan, 1988; Kitzinger, 1994). The primary reason for conducting focus group discussion is participant brainstorming or interaction between participants which leads to sharing of several opinions and digs deeper into an issue (Kitzinger, 1994; Morgan, 1996). Focus group discussion is an excellent approach for exploring new areas of interest and generating concepts and hypothesis using the inductive approach (Powell and Single, 1996). Focus group discussion also varies in comparison to group discussion because the term “focus” exhibits the role of moderator in limiting discussions to area of interest (Gallagher *et al.*, 1993; Morgan, 1996).

### *Sample population*

While explaining the institutional theory, and elaborating on the notion of the societal sector, Scott and Meyer (1983) divided the organization into two sets. The second set of organizations was categorized as technical sector and institutional sector while performance was used as a criterion to evaluate the organizations. In technical sector, performance evaluation was based on the market outcomes while in institutional sector, the performance was evaluated on the conformity with institutional rules and regulation and its indirect relation with market outcomes. This distinction among organizations is prevalent in the market even today which helped in identifying the sector to target for research. The government-funded R&D organizations fall in the institutional sector category as they indirectly influence the market outcomes.

Further, it was observed that even though R&D organizations are important for the growth and development of a country, no research has been conducted on organizational health in R&D organizations to the best of the author's knowledge (Bennis, 1962; Miles, 1965; Sayeed, 1996; McHugh and Brotherton, 2000; Wilson *et al.*, 2004; DeJoy *et al.*, 2010; Kipfelsberger *et al.*, 2016). GDP of India is \$2.263tn for the year 2016, out of which only 0.9 percent is spent on R&D (<https://tradingeconomics.com/india/gdp>). The Government of India announced 2010–2020 as Decade of Innovations with the aim of increasing the GERD to reach 2 percent of GDP of India ([www.oecd.org/india/IndiaBrochure2012.pdf](http://www.oecd.org/india/IndiaBrochure2012.pdf)). In India, the government spends the highest in R&D as compared to other private organizations ([www.nistads.res.in/indiasnt2008/t4industry/t4ind4.htm](http://www.nistads.res.in/indiasnt2008/t4industry/t4ind4.htm)). Thus, sample is drawn from R&D organization for the proposed model. Figure 1 shows the contribution of R&D to GDP which has progressively increased while Figure 2 shows the expenditure on R&D by the central government which shows the need to focus on the R&D organization.

Council of Scientific and Industrial Research (CSIR), an organization engaged in R&D has been considered for data collection. CSIR has 38 institutes/laboratories all over India apart from their headquarters situated in Delhi. CSIR mission statement works toward the maximization of economic, environmental and societal benefits for the people of India. CSIR is a general sector oriented organization working on various sectors of knowledge and technology generation like biological sciences, chemical sciences, engineering sciences, information sciences, leather and environmental sciences and physical and earth sciences. Whereas, other R&D organizations like Defense Research and Development Organization (DRDO), Indian Space Research Organization

**Figure 1** Contribution of R&D to GDP of India**Figure 2** Total expenditure on R&D by central government

(ISRO), Bhabha Atomic Research Centre (BARC) and Indian Council of Agriculture Research (ICAR) are oriented toward a specific field like defense research, space research, atomic research and agriculture research, respectively. Thus, though CSIR is one organization, given the variety of activities different labs are engaged into, they may be considered as different organization. CSIR is a general sector oriented R&D organization working on various sectors of knowledge and technology generation like biological sciences, chemical sciences, engineering sciences, information sciences, leather and environmental sciences and physical and earth sciences. CSIR laboratories can be majorly categorized into scientific laboratories, engineering laboratories and others.

Qualitative method of data collection was applied to collect data and explain the phenomena. The researchers conducted focus group discussion in two laboratories of CSIR – sciences and engineering category to obtain a comprehensive view in understanding the concept of organizational health, which could later be generalized to R&D organizations.

### Focus group discussion: process

To conduct focus group discussion, a letter was drafted duly signed by the Dean Research and an e-mail was sent addressed to Director of Central Salt and Marine Chemicals Research Institute (CSMCRI). CSMCRI is a laboratory of CSIR belonging to the scientific category. The Director of CSMCRI gave permission and delegated the activity to the head of Business Development and Information Management (BDIM). The head of BDIM heard the proposal and scheduled two focus group discussions by getting in touch with the department heads. The request to audio record the focus group discussion was declined due to the sensitivity of the topic and to encourage free communication but two stenographs were provided for capturing salient features of the focus group discussion. Two focus group discussions were conducted in the first and second half of the same day. Each focus group consisted of ten employees constituting of different levels and from different divisions (Table I). Another round of focus group discussion was conducted at National Metallurgical Laboratory (NML), Jamshedpur. NML is a laboratory of CSIR placed in the engineering category. The same process was followed to obtain permission before conducting the activity. At NML, the request to audio record focus group discussion was granted. Here also, two focus group discussions were conducted in the same day comprising of nine employees and six employees, respectively (Table I).

**Table I** Demographic details of focus group respondents

Respondent	Designation	Gender	Division	Laboratory
R1	Senior principal scientist	Male	Salt and marine chemicals	CSMCRI
R2	Principal scientist	Male		
R3	Scientist	Male		
R4	Chief scientist	Male	Inorganic materials and catalysis	
R5	Scientist	Male		
R6	Senior scientist	Female		
R7	Senior principal scientist	Male	Marine biotechnology	
R8	Principal scientist	Female		
R9	Scientist	Male		
R10	Scientist	Male	Waste land research	
R11	Senior principal scientist	Male		
R12	Senior scientist	Male		
R13	Principal scientist	Male	Analytical sciences	
R14	Scientist	Male		
R15	Senior principal scientist	Male		
R16	Chief scientist	Male	Membrane sciences (Electro-membrane; Reverse Osmosis (RO) membrane; RO engineering)	
R17	Scientist	Female		NML
R18	Principal scientist	Male		
R19	Senior scientist	Female		
R20	Scientist	Male		
R21	Principal scientist	Male	Corrosion and surface engineering	
R22	Scientist	Female		
R23	Chief scientist	Male	Business development and monitoring	
R24	Scientist	Male		
R25	Senior scientist	Male	Engineering	
R26	Scientist	Male		
R27	Scientist	Male		
R28	Senior principal scientist	Male	Materials science and technology	
R29	Senior scientist	Male		
R30	Scientist	Female		
R31	Scientist	Male	Minerals processing	
R32	Senior scientist	Male		
R33	Chief scientist	Male	Metal extraction and forming	
R34	Principal scientist	Male		
R35	Scientist	Male		

The sample of four focus group discussions consists of 29 males and 6 female participants with age group ranging from 25 to 55 years. The minimum years of experience were 2 and maximum years were 27. While constituting group care was taken that the employees had at least two years of experience in the same laboratory. The open-ended questions which facilitated the focus group discussion are as follows:

1. What according to you constitutes organizational health?
2. Advantages and disadvantages of organizational health.
3. Role of employees in enhancing organizational health.

The focus group discussion from CSMCRI and NML were transcribed within 24 h. Data analysis started with open coding which is based on identification of the distinct concepts/categories in the data. Coding is an independent analytical method for analyzing qualitative data (Miles and Huberman, 1994; Patton, 1990). The coded data were analyzed using VantagePoint software and Aduna map was generated. To check the reliability of the coded data, the inter-rater reliability was calculated and found to be 75 percent. Inter-rater reliability is an important process in qualitative research because of the need for agreement in the independently coded data (Armstrong *et al.*, 1997). To enhance the validity of the qualitative results, member checking process was adopted.

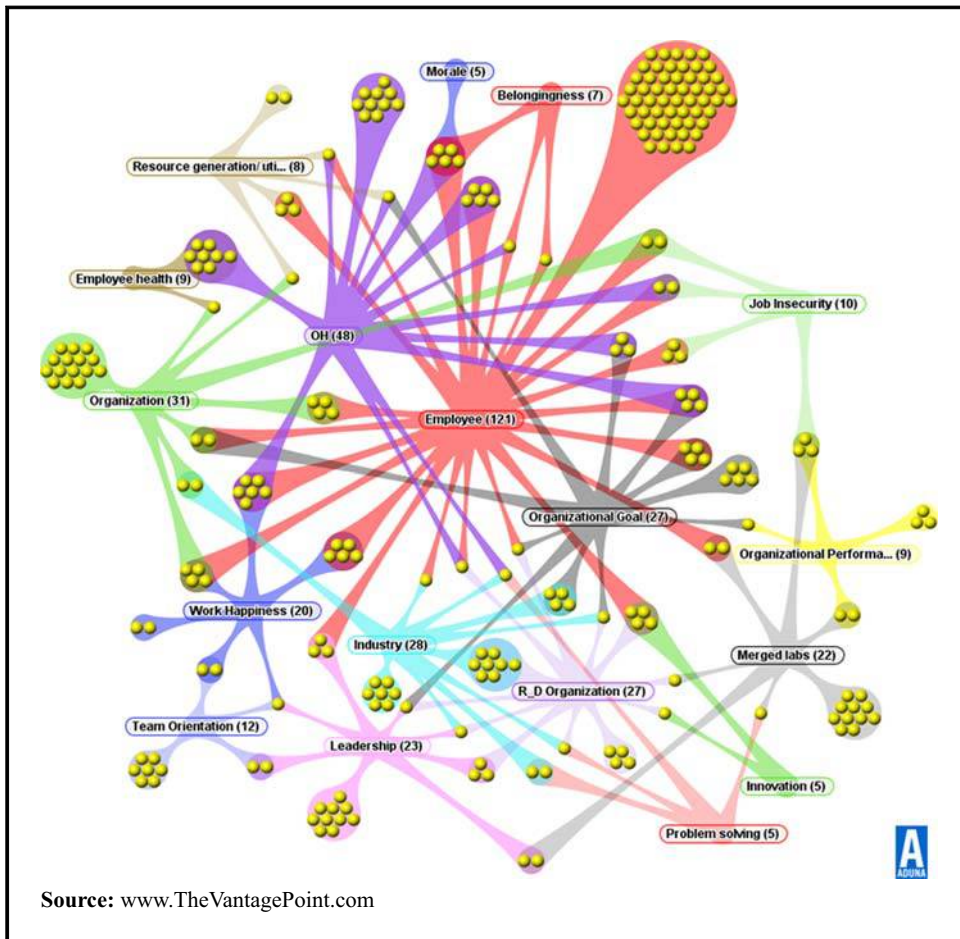
## Results and discussion

The coded data comprising quotes/verbatim which were keyed out from the transcribed notes and keywords were identified from the verbatim (Table II). A total of 905 keywords were extracted from 269 quotes/verbatim. As the keywords extracted were close to thousand words, frequency was used as a parameter to reduce the number of the keywords. The keywords having frequency less than 5 were removed from further data analysis which reduced keywords to a total of 424 having frequency of 5 or more. Further the keywords having similar meaning (Oxford dictionary) were classified under the same theme. Thus, 424 keywords conglomerated to 40 themes which were further reviewed in relation to the concept of organizational health reducing the number to 19 themes. Figure 3 is an Aduna map generated for the identified 19 themes. The number provided in the parenthesis next to the themes highlight its frequency in the coded data. These 19 themes can be sorted into four categories, namely, generalized variables, factors of organizational health, antecedents and consequences of organizational health based on their unique nature (Table III). Factors of organizational health have been explained in the subsequent section.

**Table II** Data coded from transcripts of focus group discussion (sample)

<i>Respondent</i>	<i>Verbatim/quotes</i>	<i>Keywords</i>
R1	OH is all about vision irrespective of finance or all	OH, vision, finance
R2	When comparing OH with human health; you have to concentrate on A to Z department of the organization	OH, employee health, departments
R3	Organizational health (OH) means basically taking care of all the employees' health	OH, employee health
R3	Organization can grow with individual employee's health	Organization, grow, employee health
R1	Structural hierarchy is long and every decision pertaining to the growth and development of the organization needs approval from committees	Structure, hierarchy, growth, committees
R10	If the director favors you, you get promoted	Director, promotion
R11	Employees stay at work after office hours irrespective of whether they produce any fruitful outcome or not, only to impress the senior management	After office hours, impress, senior management
R10	In government organizations, irrespective of whether an employee works or not, they do not get fired like in private organizations	Job security

**Figure 3** Aduna Map generated of the 19 selective keywords identified from the coded data of the transcripts Image generated using VantagePoint v9.0



**Table III** Themes generated with the help of Aduna Map

Themes generated	Frequency of themes	References
<i>Factors of organizational health</i>		
Resource generation/utilization	8	Miles (1965), Damirch and Rahimi (2011), Sayeed (1996), Sayeed (2001), Biswas and Biswas (2010), and Singh (2014)
Innovation	5	
Morale	5	
Problem solving	5	
Team orientation	12	
<i>Antecedents of organizational health</i>		
Employee health and wellbeing	9	Hart and Cooper (2001), Hansson (2008)
Organizational communication	7	Downs and Hazen (1977), Mount and Back (1999), and Akkirman and Harris
Sense of belongingness	7	Antoniou <i>et al.</i> (2003), and Chang and Lu (2007)
Job insecurity	10	Sadri and Marcoulides (1997), Sparks and Cooper (1999), and Oke and Dawson (2012)
<i>Consequences of organizational health</i>		
Organizational performance	9	Hart and Cooper (2001), Shoaf <i>et al.</i> (2004), and Hansson (2008)



### *Factors of organizational health*

The comprehensive review of literature on organizational health helped in identifying factors of organizational health generated in Aduna map based on their uniqueness. Five factors of organizational health were identified in Aduna map, namely, resource generation/utilization, innovation, morale, problem solving and team orientation (Miles, 1965; Sayeed, 1996; Biswas and Biswas, 2010).

*Resource generation/utilization.* Resources are the cornerstones of competitive advantage (Peteraf, 1993) and the concept of organizational health has evolved with the primary focus on attaining competitive edge (Keller and Price, 2011; Lencioni, 2012). Miles (1965) and Sayeed (1996) described resource utilization as effective and efficient use of inputs both human and material.

The following quotes highlight the same:

Major problem is to buy instruments which delay the process of resource generation and resource utilization. (R1)

So, the instruments bought are of poor quality and break down easily and then later rust in labs. (R4)

In case of equipment failure, it may cause problems in achieving departmental goals thereby reducing the chance of achieving organizational goals (Reason *et al.*, 1998). This has also been supported by respondents from NML when they identified resources as one of the parameters of organizational health when posed with the question of what constitutes organizational health (Miles, 1965; Damirch and Rahimi, 2011):

Organizational health is the combination of manpower what we are, resources and the establishment and the relevance in national and international scenarios. (R24)

Organizational health is where all components of the organization particularly the man, material, machines particularly the human work in a synchronized manner to achieve a common goal which is defined by the common objective or mission which is defined by the organization from time to time. (R23)

These quotes show that one of the important factors of organizational health is resources generation/utilization which can be in form of manpower, materials utilized and machines/equipment's possessed (Miles, 1965). When all the resources work in a synchronized way and achieve organizational goal, then organization is said to be healthy (Shoaf *et al.*, 2004).

*Innovation.* This section considers innovation as an integral part of an R&D organization and its significance in regard to organizational health. Miles (1965) described innovativeness as the creative orientation of employees – the extent to which the organization is characterized as receptive to innovative ideas. Innovativeness is the ability of an organization to orchestrate the development of new goods and services while creativity is one of the key resources in such an undertaking (Styhre and Börjesson, 2006).

As seen in Figure 3, innovation is seen to have inter-linkages with employee and R&D organization. These inter-linkages show that for any R&D organization to grow, develop and sustain the demand of ever-changing technology, innovation plays an important role (Paulsen *et al.*, 2009). One of the respondents pointed out that due to the innovative system of CSIR, employees have flexibility in pursuing work of their interest if it is in synchronization with organizational goals which ultimately leads to organizational health (Reason *et al.*, 1998; Shoaf *et al.*, 2004):

Suppose within the three hours I found some interesting thing then I will be allocated some time by the system CSIR innovative system to carry out further work, which we are having - what you call flexibility and so we are healthy. (R31)

In an R&D organization, employees need to have zeal, creativity and innovation to be satisfied. (R2)

During focus group discussion at CSMCRI, respondents insisted that in any R&D organization, employees need to be enthusiastic, creative and innovative in nature (Paulsen *et al.*, 2009; Podmetina *et al.*, 2009). Any organization that provides a culture of creativity and innovativeness to employees achieves success and develops a sustainable competitive advantage (Barbosa, 2014). The concept of organizational health has evolved with the primary focus on attaining competitive advantage (Keller and Price, 2011; Lencioni, 2012) thereby highlighting the significance of innovation in organizational health.

*Morale.* Morale is the state of spirits of employees – the extent to which the employees remain optimistic and loyal to the organization particularly in face of opposition/hardship (Sayeed, 1996). Employee morale is a fundamental component of every organization – high morale coincides with job satisfaction, high work effort, creativity and initiative, a sense of pride in one's work, a commitment to one's organization, and the desire to put the achievement of group goals ahead of personal goals, thereby enhancing an organization's performance (Linz *et al.*, 2006). Morale is seen to have inter-linkages with employee, belongingness and organizational health (Figure 3) which is also highlighted by the quote below:

Organization is healthy if employees have a sense of belonging like in a family. It also helps in uplifting the morale of employees. (R15)

Employees need to perceive organization not as workplace but as family. This will give rise to feeling of belongingness like in a family and due to this feeling employees instead of being compelled to work, shall work for the betterment of their own family uplifting their morale (Linz *et al.*, 2006).

*Problem solving.* The problem solving is a key component of an R&D organization. Every organization should have the capability to solve their problems if it wants to survive, grow and develop with the dynamic environment (Hoy *et al.*, 1991).

While discussing the need for problem solving, the respondents of NML revealed that though the orientation of CSIR is equally toward scientific and industrial research, solving problems confronted by industry is not often contemplated by them. So, it is necessary to redesign the curriculum either at education level or at professional level so that the need to solve problems faced by industry attains the upmost priority:

Problem solving is not there. Industrial problem solving isn't there in curricula. (R21)

If we can solve industrial problems then we have relevance. We can sustain and we can have better health. (R28)

The industrial organization don't have to search for getting their problem solved like this is my problem shall I go to CSIR this lab or that lab. (R27)

The core purpose of any R&D organization is to resolve problems and find solutions for sustenance in this high-demanding environment (Davenport *et al.*, 2013). One of the respondents associated organizational health with sustenance and highlighted that the relevance of CSIR is present only if it can solve industrial problems. Also, if an industry needs a solution to their problem then there should be a self-sustaining mode of operation through which the industry can identify the lab of CSIR to target for solution to their problem. If R&D organizations can provide solutions to problems, it could greatly enhance the competitive advantage and the concept of organizational health has evolved with the primary focus on attaining competitive advantage (Keller and Price, 2011; Lencioni, 2012) thereby highlighting the importance of problem solving in organizational health.

*Team orientation.* Team orientation is extent to which participation is felt at formal and informal level, sensible competition and cooperation among work groups and identification within organization (Miles, 1965; Sayeed, 1996). For any organization to function properly, the employees should be comfortable working in a team rather than alone (Tarricone and Luca, 2002). De Vries (2000) identified effective teamwork as one of the fundamental elements of high-performing businesses:

A team should be recognized as a team and not as an individual. (R30)

Not only do they have grievances but employees detest when an individual of their team is recognized and given credit for everyone's performance (Butler, 1973). This situation further aggravates when an individual's contribution to the project completed is not acknowledged causing psychological disturbances among them leading to their unhappiness at work which further degrades the organizational health:

But when only an individual is accountable and not the other people that are supporting that team, there will be some disturbance amongst them – psychological disturbance leads to unhappiness. (R34)

In order that all team members are satisfied and happy, every member of the team should be given due credit (Butler, 1973). This way all employees of a team feel satisfied and happy and work together toward achieving organizational goals (Bolon, 1997; Mowday *et al.*, 2013). As

organizational goal is a parameter of organizational health; it ultimately leads to organizational health (Shoaf *et al.*, 2004).

The comprehensive review of literature on organizational health provided Miles (1965) and Sayeed (1996) as a base for ascertaining factors of organizational health. Miles (1965) developed ten properties of organizational health, namely, goal focus, communication adequacy, optimal power equalization, resource utilization, cohesiveness, morale, innovativeness, autonomy, adaptation and problem-solving adequacy. Sayeed (1996) identified seven dimensions of organizational health, namely, managerial efficacy, practicality and problem solving, organizational adequacy vs slack, amicable power relation, HRD orientation and practice, team orientation and organizational values. On comparing the dimensions of organizational health provided by Miles (1965) and Sayeed (1996) with dimensions identified through focus group discussion, it was found that there was an overlap among some of the dimensions. These overlapped dimensions were five dimensions of organizational health which emerged from the focus group discussion, conducted at the R&D organization, namely, generation/utilization, innovation, morale, problem solving and team orientation.

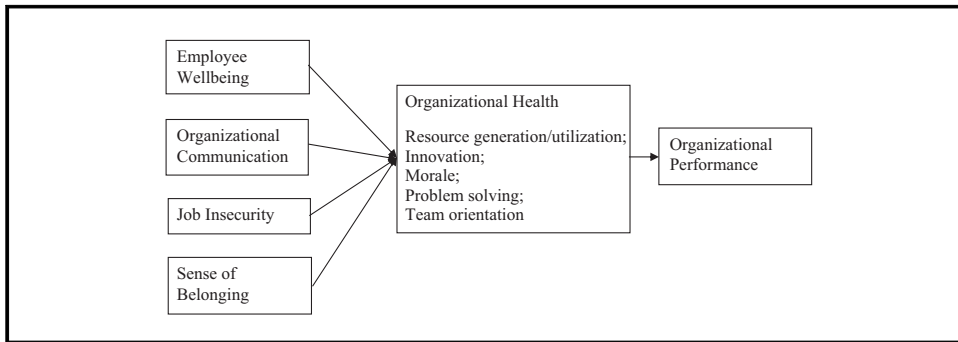
## Conclusion

This study explored the concept of organizational health by conducting focus group discussion at laboratories of CSIR. The focus group discussions helped in conceptualizing organizational health by identifying five dimensions, namely, resource generation/utilization, innovation, morale, problem solving and team orientation. First factor, resource generation/utilization has inter-linkages with employee and organization. The inter-linkage in Aduna map shows that employees play a crucial role in procuring resources for an organization (Sayeed, 2001; Singh, 2014). Availability of resources to employees denotes health of an organization. The respondents at CSMCRI gave an example of procuring lab instruments to highlight the importance as well as difficulty faced by them not only while acquiring but after procurement as well. The second factor, innovation is seen to have inter-linkages with employee and R&D organization. These inter-linkages show that for any R&D organization to grow, develop and sustain the demand of ever-changing technology, innovation plays an important role (Paulsen *et al.*, 2009). The third factor, morale, has inter-linkages with employee, belongingness and organizational health. The fourth factor, problem solving describes the extent to which an organization is characterized as demonstrating problem solving mode of operation in various facets of its function (Miles, 1965; Sayeed, 1996). Problem solving is seen to have inter-linkages with industry, merged labs, R&D organization and organizational health (Figure 3). Similarly, the fifth factor, team orientation has inter-linkages with leadership and work happiness (Figure 3). While discussing the role of employees in organization with the respondents of focus group discussion, it was perceived that the respondents showed grievances toward individual recognition but conceded with team recognition (Butler, 1973).

Research identified four antecedents of organizational health, namely; employee wellbeing, organizational communication, job insecurity and sense of belonging while organizational performance acted as an outcome of organizational health. Researchers explaining employee health and wellbeing focused on psychological wellbeing which consisted of several components including affective wellbeing (Warr, 1987, 1994), job satisfaction, aspiration, anxiety and burnout (Ryff and Keyes, 1995; Daniels, 2000; Holman, 2002). As seen in Figure 3, employee health has inter-linkages with organizational health. This shows that employee plays an important role in proper functioning of the organization thereby emphasizing the need to ensure their health and wellbeing (Hart and Cooper, 2001). As per the viewpoints of respondents from the lab NML, organizational health depends on proper communication among employees for its smooth functioning (Huang and Ramey, 2008). They also observed that internal communication of an organization needs to evolve as per change in environment (Johansson and Heide, 2008). Further, sense of belonging is an employee retention parameter and has significant influence on organizational health. Sense of belonging has inter-linkages with organizational health, employee and morale (Figure 3).

These identified antecedents, outcome and factors of organizational health were broadly viewed and a framework for organizational health was proposed (Figure 4). The proposed framework can

**Figure 4** Proposed framework of organizational health



be empirically tested not only for R&D organizations but for other sectors also. Managers can improve the health of their organization using the dimensions of organizational health identified during focus group discussion.

### Implications of the study

The study contributes in extending research of organizational health by providing people centric definition with four factors; resource utilization, innovation, moral, problem solving and team orientation. In R&D organization availability of resources and utilization of resources are concern for organization. Managers can utilize the concept and monitor resources from both utilization and availability perspective to improve the health of organization. Due to globalization, resource generation is a source of problem for organizations in emerging markets if they are not at the core of scientific and technological advancement. Another important aspect useful for managers is criteria to measure organizational performance of an R&D organization. Though numerous researchers across the globe have used patents, publications and external cash flow as the measures of organizational performance, these parameters are in contest due to the scientific and technological imbalance in advancement of the R&D organizations in developed and emerging countries. Finally, managers and future researchers can test the proposed model to understand the applicability of the model in sectors other than R&D.

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